

paths are clearly and repeatedly described as optically transmissive, the paths conveying light, radiation and the like, and the information being described in the original specification and claims as optical information that is being transmitted.

Antecedent basis for the change of the word "control" to 'central' in the specification may be found in the first paragraph of the Description of the Invention.

New claim 72 finds antecedent basis generally in the specification and, for example, in claim 6 and page 12, lines 8-12 and elsewhere in the specification. This claim is intended to cover the use of the oriented optical axes identified by the Examiner as the basis for patentability of claim 6, yet allowing the use of only at least one optical path, as opposed to the at least two optical paths required in claim 6.

### **SUMMARY OF THE REMAINING REJECTIONS AND OBJECTIONS**

#### **Rejections Under 35 USC 112, Second Paragraph**

It is believed that each and every issue raised under 35 USC 112, second paragraph has been specifically addressed by these amendments.

#### **Rejections Under 35 USC 103(a) As Unpatentable Over the Prior Art As Described on Pages 2-4 of the Specification, Borsboom (U.S. Patent No. 4,884,891) in View of Howarth (U.S. 3,994,602).**

Claims 1, 7, 33 and 36-40 have been rejected under this ground of rejection. Applicant traverses this rejection for the same reasons that were presented in the Brief on Appeal. The claims have been amended to establish the clarity of the limitations being argued in the traversal of the rejection. That Brief on Appeal, a copy of which is appended hereto, is incorporated by reference for its arguments over this specific ground of rejection. In particular, it is to be noted that neither the prior art, Borsboom or Howarth specifically shows the critical limitation in all of these claims (the limitation being present in each independent claim of this groups or from which the claim depends) that:

"...at least one of the surface areas of each of said paths being extended in length  
**at substantially constant spacing from the other surface** of each of said  
paths..."

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Without any teaching of that limitation in the prior art, Borsboom, or Howarth, the rejection cannot teach that limitation to be obvious. The rejection is fatally flawed by at least that one point.

It is also to be noted that the arguments in the Brief on Appeal incorporated herein by reference address the failure of the combination of references noted by the Examiner.

Specifically, the Examiner had previously commented on this specific combination of references that the admitted prior art showed only a single path through the sample, while Applicant's claim recites:

“...a plurality of different paths...defining each of said paths by corresponding and separated surface areas on said material...” (emphasis added)

The rejection of record no longer points out what was previously, and correctly, identified as a flaw in the teachings of the reference, the assertion that Borsboom must disclose a second path defined by corresponding and separated areas. The rejection relied on the assumption that the second path was the possible interchange of transmitted light between the bundled emitters and receptors in the core. This asserted second path cannot be characterized by separated surface areas, but rather by areas that are shared by emitters and detectors. This is specifically identified as an occurring and essential event in the disclosure of Borsboom on column 2, lines 25-46 of Borsboom. As each of the rejected claims with this limitation of corresponding and separate surface areas defining the beginnings and ends of transmission paths cannot be taught to be obvious by the combination of references, as the reference relied upon for this ‘asserted’ teaching (Borsboom) actually teaches the opposite structure of overlapping or shared surface areas, the rejection must fail as a matter of fact and as a matter of law.

It is to be noted that the sharing of areas also tends to detract from, diminish or even destroy the need for the substantially constantly spacing from the other surface recited in some of these claims. This is pointed out clearly in the section bridging pages 12 and 13 of the Brief on Appeal.

Additionally it is noted that claim1 now recites that:

“...the total circumferential length of said ring or length of said slit shape being substantially greater than the mean distance separating said corresponding and separated surface areas defining each of said transmission paths...”

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As Borsboom shows bundles of optical fibers as opposed to areas having circumferences or slits having defined lengths, that reference, in addition to its many other failings, fails to provide a fundamental basis for finding any instruction of the recited limitations of the inventions. The combination of references fails to teach this essential point in the claims. The combination of references clearly fails to teach the invention as a whole to be obvious from the combination of references.

Applicant does not wish to repeat each and every one of the arguments already set forth and incorporated herein by reference from the Brief on Appeal, but also does not waive any of those arguments by merely summarizing the above arguments, which by themselves are sufficient to show the failure of the rejection of record.


The rejection of record under 35 USC 103(a) is clearly in error and must be withdrawn

### CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. In view of the extremely long prosecution history of this application, the Examiner is invited to telephone Applicant's attorney at (952) 832.9090 to facilitate prosecution of this application by a telephone interview if any issues are deemed to remain.

Respectfully submitted,  
EDWARD W. STARK  
By his Representatives,  
Mark A. Litman & Associates, P.A.  
York Business Center  
Suite 205  
3209 W. 76<sup>th</sup> Street  
Edina, MN 55435  
(952) 832.9090

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By   
Mark A. Litman  
Reg. No. 26,390

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Assistant Commissioner of Patents, Washington, D.C. 20231 on February 3, 2003.

Name Mark A. Litman

Signature



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